Parents' Guide for Third Grade Mathematics

By the end of grade three, students develop understandings of multiplication and division of whole numbers. They use properties to develop increasingly more sophisticated strategies to solve problems involving basic multiplication and division facts. They relate division to multiplication. Students understand fraction equivalence for simple fractions; they recognize that the size of a fractional part is relative to the size of the whole. They understand meanings of fractions to represent parts of a whole, parts of a set, or distances on a number line. They compare and order simple fractions by using models, benchmark fractions, or common denominators.

Students investigate, analyze, and classify two-dimensional shapes by their sides and angles. They decompose, combine, and transform polygons to understand properties of two-dimensional space and use those properties to solve problems. Students construct and analyze frequency tables, bar graphs, picture graphs, and line plots and use them to solve problems.

The following are specific skills students need to acquire by the end of grade three:

Number Sense and Operations
- Take out even and odd part
- Order and compare whole numbers on a number line and use symbols $=, >, <, \neq$
- Use fractions to communicate parts of the whole
- Place fractions on the number line
- Know multiplication facts through 10 x 10
- Add and subtract 3 and 4 digit numbers
- Use a variety of methods to facilitate computation (estimation, mental math, pictorial, paper & pencil)

Patterns
- Create, represent, and analyze patterns using numbers, pictures, objects, and tables
- Solve equations involving equivalent expression (e.g., $6 + 4 = \square + 7$)
- Use $>, <,$ or $=$ to compare two addition or subtraction expressions (e.g., $4 + 6 \square 3 + 2$)
- Apply identity, zero, distributive, commutative, and associate properties for addition and multiplication

Geometry and Measurement
- Identify attributes for classifying triangles (e.g., isosceles, equilateral, right) and quadrilaterals (e.g., parallelogram, rectangle, square)
- Identify right angles in geometric figures and determine whether other angles are $>$ or $<$ a right angle
- Determine whether two polygons are congruent by translations (slides), reflections (flips), and rotations (turns)
- Use appropriate tools and units to estimate and measure length, weight, capacity (i.e., cm, m, inch, foot, yard, cup, quart, lb., ounce)
- Know the relationship between minute, hours, days, weeks, months, and years
- Estimates and measures perimeter
- Determine elapsed time in hours (e.g., 7:00 a.m. to 2:00 p.m.)

Data and Probability
- Collects, organizes, and displays data to make predictions using tables, graphs, and charts
- Describe the results using the terms 'certain'. 'likely', 'unlikely', and 'impossible'
- Predict outcomes of simple activities